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CONSTRUCTION DOCUMENTATION OF THE
TEMPORARY LOADING/UNLOADING PAD

AT

ENVIROPUR WASTE REFINING
AND TECHNOLOGY, INC.

(Formerly MORECO Energy, Inc.)

McCOOK, ILLINOIS

July 1, 1993

ILD 000646786

RAPPS

ENGINEERING & APPLIED SCIENCE • P.O. Box 7349 • 2387 WEST MONROE • SPRINGFIELD, IL 62791-7349 • (217) 787-2118

July 1, 1993

Illinois Environmental Protection Agency
Bureau of Land
Division of Land Pollution Control
Permit Section
P.O. Box 19276
Springfield, Illinois 62794-9276

RECEIVED

JUL 02 1993

IEPA - BOL
PERMIT SECTION

Attention: Mr. Lawrence W. Eastep, P.E., Manager

Re: 0311740002 -- Cook County
Enviropur Waste Refining and
Technology

Dear Mr. Eastep:

Attached for your review is an engineering report which serves as documentation of Enviropur Waste Refining and Technology's (formerly MORECO Energy, Inc.) temporary containment system's construction. Included in this report is an independent professional engineer's certification. This information is being submitted as required by special condition 38 (b)(2) of Enviropur's revised operating permit number 1980-2-OP.

If you have any questions regarding this report, please call me.

Sincerely,



Jon A. McCormick

cc: Frank Lappin, Enviropur
Greg Dunn, IEPA (wo / attachments)

JAM/jam
7021-2L

**CONSTRUCTION DOCUMENTATION OF THE
TEMPORARY LOADING/UNLOADING PAD
AT
ENVIROPUR WASTE REFINING AND TECHNOLOGY, INC.
McCOOK, ILLINOIS**

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**CONSTRUCTION DOCUMENTATION OF THE
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ENVIROPUR WASTE REFINING AND TECHNOLOGY, INC.
McCOOK, ILLINOIS**

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1.0 INTRODUCTION / PURPOSE

On March 29, 1993, the Illinois Environmental Protection Agency issued revised operating permit number 1980-2-OP for the Enviropur (formerly MORECO Energy) McCook facility. The operating permit was revised to approve the design of a temporary containment system, submitted to satisfy Special Condition 27 of the facility's supplemental permit 1983-163-SP dated January 29, 1993. This engineering report serves as documentation of the temporary containment system's construction and includes an independent professional engineer's certification, all required as Special Condition 38(b)(2) of 1980-2-OP. Appendix 1-1 contains the completed certification of 35 IAC 702.126(d).

2.0 TEMPORARY LOADING/UNLOADING CONTAINMENT PAD

The permitted design of the temporary containment pad consists of 9.5" of asphalt, sloped at 1.32% towards the sump which is located within the containment pad. The pad is surrounded by a concrete containment wall that extends, on average, 17" above the asphalt surface. This dimension varies because the top of the containment wall elevation is constant and the asphalt pad is sloped. The entrance and exit are ramped with crushed aggregate in a manner that provides access to the pad, while still maintaining the required containment.

2.1 LOCATION

The location of the temporary asphalt containment pad is identified on Plan Sheets 2 and 3. The temporary pad covers an area of approximately 4,030ft² and is surrounded, with the exception of the ramped entrance and exit, by a concrete containment wall.

2.2 MANAGEMENT OF EXCAVATED SOIL

Prior to any soil excavation, three soil samples were collected from the proposed loading/unloading containment pad area. The soil sample locations are identified on Plan Sheet 3 of the approved temporary loading/unloading pad supplemental permit application dated February 28, 1993. These soil samples were analyzed to determine if the soil was characteristically hazardous waste once it was excavated. Specific analytical parameters include the entire TCLP list, pH, flash point, reactive cyanide and reactive sulfide. Samples were collected from a depth of approximately 0.5 feet below the existing ground surface (See Section 2.3 for a discussion of the soil excavation). The samples were extracted and analyzed in accordance with SW-846 procedures by Enviropur's onsite laboratory as approved in the facilities revised Operating Permit (# 1980-2-OP). The test results indicated the soil to be characteristically non-hazardous. See Appendix 2-1 for the soil test results.

2.3 EXCAVATION

On May 15, 1993 Rapps personnel arrived at the site to provide construction layout

and guidance for the temporary containment pad installation. Elevations and grades were set for the contractor. The proper sub-base grades were established by the contractor with gravel and soil excavation to a depth of 9.5" adjacent to the sump, and decreased in depth moving away from the sump, generally in all directions until existing grade was matched. In addition, gravel and soil were excavated for the perimeter concrete containment wall (See Section 2.4). The soil was excavated by a backhoe then transported to the existing stockpile and will be remediated per the consent order.

2.4 CONTAINMENT WALL

As the first construction step, a concrete containment wall was constructed to perimeterize the temporary (not yet installed) asphalt containment pad. On May 16, 1993, Rapps personnel set reference stakes and string line from which the contractor could excavate the proper elevation, and install the forms to contain the reinforcement and concrete. The containment wall thickness was increased from 6", as outlined on the approved plans, to 8" and the depth of the wall below grade was increased from 16" to 36". The enhanced design allows the containment wall to even more resist an impact from a truck accidentally coming into contact with the wall during the unloading process. The contractor placed #3 rebar on 8" horizontal and vertical centers throughout the containment wall prior to pouring concrete, the contractor and Enviropur personnel report. The concrete forms were held together with snap-ties to maintain wall thickness and height, as well as prevent slumping or failure of the poured concrete.

The majority of the concrete was poured continuously. Only a few cold joints were required between work days. The contractor and Enviropur plant representatives indicate the joints between the pours were joined by #3 reinforcement bars on 8" horizontal centers. "L" bars (#3) were again used on 8" centers when constructing poured corners, as required on the plan design.

The total amount of concrete used was approximately 35.5 cubic yards. Documentation provided by the contractor shows a five bag, 3500 psi concrete mix design was used. See Appendix 2-2 for the concrete documentation.

On Wednesday, June 23, 1993, Rapps Engineering personnel inspected the

finished concrete wall and surveyed the elevation of the top of the concrete wall. Rapps personnel reported no random cracking, good workmanship and adequate thickness of the wall. The survey notes are included as Appendix 2-5.

Soil excavated to allow installation of the containment wall was managed in accordance with Section 2.2.

2.5 PAD INSTALLATION

The concrete containment wall was constructed and allowed a minimum of 72 hours to cure prior to placement of the asphalt pad.

2.5.1 SUB-GRADE PREPARATION

Following earth excavation and grading, the sub-grade was prepared in accordance with Section 212 of the Standard Specifications for Roads & Bridge Construction, published by IDOT. This specification requires that the sub-grade be compacted to not less than 95% of the standard laboratory density. The sub-grade was graded and compacted by the contractor to conform with the alignment and grade shown on the plans prior to asphalt installation. See Appendix 2-3 for the sub-grade compaction test results performed by Robert L. Nelson and Associates, Inc. of Schaumburg, IL.

2.5.2 ASPHALT PLACEMENT

The contractor and Enviropur personnel report the asphalt was placed with a spreading and finishing machine in four separate lifts. Three 2.5" lifts of binder course and one 2" lift of surface course were placed and each lift was compacted with a vibratory roller. Only a few small hard-to-reach areas (i.e. adjacent to the inside corners of the concrete wall) were inaccessible to the compaction equipment. Densification in these areas was obtained using hand compaction equipment.

One hundred and sixty six (166) tons of binder course and sixty (60) tons of surface course, all Class I, Type 2 mixes, were used to construct the containment pad. See Appendix 2-4 for contractor documentation and bituminous material specifications.

On Wednesday, June 23, 1993, Rapps Engineering personnel inspected the finished asphalt containment pad and established the finished elevations of the temporary asphalt containment pad. The survey notes are included as Appendix 2-5. After a recent heavy rainfall, no localized areas of ponding on the asphalt surface were identified.

3.0 PUMPS / PIPING CONTAINMENT

Four pumps are used for loading and unloading oils between semi-truck trailers and storage tanks. Individual containment will be provided for each pump.

3.1 LOCATIONS

The pumps are labeled Pump 1 through Pump 4 and their locations are identified on Plan Sheet 3.

3.2 DESIGN

Each pump containment area is unique in design due to the restrictions and/or conditions of that particular containment area. The following describes the design for each of the four pump containment areas. (See the attached photographs section)

Pump 1 was left in its original location. Containment is provided by a 15' long x 15' wide x 1' high concrete structure. Any spill from this pump drains to the two sumps located directly North of the containment structure. The sumps then pump the liquid to a storage tank located above the containment structure (See Plan Sheet 3).

Pump 2 is located at the western-most end of the loading/unloading pad as shown on Plan Sheet 3. The pump sits on top of an existing concrete pad. The containment wall currently bounds the pump on one side. An additional concrete wall and a small area adjacent to the pump (approx. 1.5' x 15') remain to be poured. See the attached photographs for details. This work is scheduled to be completed by July 9, 1993. When this work is complete, any spill from the pump and/or piping immediately adjacent to the pump will be channelled towards a nearby manhole. All liquids entering the manhole flow to the facility's onsite wastewater treatment plant.

The location of Pump 3 is shown on plan sheet 3. The pump sits on top of an existing concrete pad. The containment wall currently bounds the pump on one side. An additional concrete wall remains to be poured. See the attached photographs for details. This work is also scheduled to be completed by July 9, 1993. When this work

is complete, any spill from the pump and/or piping immediately adjacent to the pump will be channelled towards a nearby catch basin. The liquid in the catch basin then flows to the onsite wastewater treatment plant.

Pump 4 was temporarily moved from the area while the unloading pad was constructed and then placed back in its original position. The pump is now within the asphalt unloading pad, therefore, any spill from this pump and/or piping would drain directly to the sump servicing the unloading pad. All liquids entering the sump flow to the facility's onsite wastewater treatment plant.

4.0 CONSTRUCTION SCHEDULE

The construction of the temporary containment system began on Friday, May 14, 1993. With the exception of a partial concrete floor next to pump number 2 and containment walls around pumps number 2 and 3, on Tuesday, June 22, 1993 the containment system's main elements were operational.

As outlined in Special Condition 38(a) of Enviropur's revised operating permit number 1980-2-OP, the Agency's Maywood office was notified by either Enviropur or Rapps Engineering personnel prior to commencing excavation, asphalt placement and concrete placement activities. The Agency's Field Office was also contacted upon the completion of the unloading pad on Tuesday, June 22, 1993. The Maywood office will be contacted upon the completion of the partial concrete floor next to pump number 2 and containment walls around pumps number 2 and 3, scheduled to be completed by July 9, 1993.

APPENDICES

APPENDIX 1-1

ENGINEER'S CERTIFICATION

ENGINEER'S CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

ENGINEER

Name: M. RAPPS ASSOCIATES, INC.,
by Timothy J. Sheehan, P.E.
Address: 2387 West Monroe

Springfield, Illinois

62704

Phone Number: (217) 787-2118

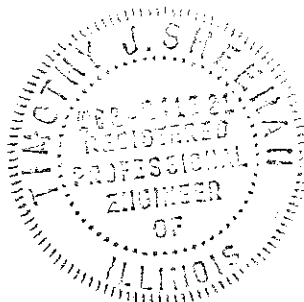
Signature of Engineer:

Timothy J. Sheehan for M. Rapps Assoc, Inc.

Date: July 02, 1993

Il. Reg. No. 062-041821

Seal



APPENDIX 2-1

SOIL TEST RESULTS

ENVIROPUR INC.
7601 WEST 47th STREET MCCOOK, IL 60525

ANALYSIS REPORT FORM
LIFT AND UNLOADING STATIONS

SAMPLE ID: UPS #1
SAMPLE DATE: Apr 7, 1993
REPORT DATE: May 13, 1993
SAMPLE DESCRIPTION: UNLOADING STATION

PARAMETER	RESULT	LIMIT
Arsenic	: <0.15	5.0 mg/L
Barium	: 29.6	100.0 mg/L
Cadmium	: <0.1	1.0 mg/L
2,4- D	: <0.07	10.0 mg/L
Endrin	: <0.001	0.02 mg/L
Lead	: 0.10	5.0 mg/L
Lindane	: <0.001	0.4 mg/L
Mercury	: <0.0002	0.2 mg/L
Methoxychlor	: <0.055	10.0 mg/L
Selenium	: <0.12	1.0 mg/L
Silver	: <0.1	5.0 mg/L
Toxaphene	: <0.12	0.5 mg/L
2,4,5-TP (silvex)	: <0.055	1.0 mg/L
Benzene	: <0.01	0.5 mg/L
Carbon Tetrachloride	: <0.01	0.5 mg/L
Chlordane	: <0.003	0.03 mg/L
Chlorobenzene	: <0.01	100.0 mg/L
Chloroform	: <0.01	6.0 mg/L
o-Cresol	: <0.01	200.0 mg/L
m-Cresol	: <0.01	200.0 mg/L
p-Cresol	: <0.01	200.0 mg/L
Cresol (total)	: <0.01	200.0 mg/L
1,4 Dichlorobenzene	: <0.01	7.5 mg/L
1,2 Dichloroethane	: <0.01	0.5 mg/L
1,1 Dichloroethylene	: <0.01	0.7 mg/L
2,4 Dinitrotoluene	: <0.01	0.13 mg/L
Heptachlor (and its epoxide)	: <0.003	0.008 mg/L
Hexachlorobenzene	: <0.01	0.13 mg/L
Hexachloro-1,3-butadiene	: <0.01	0.5 mg/L
Hexachloroethane	: <0.01	3.0 mg/L
Methyl ethyl ketone	: <0.01	200.0 mg/L
Nitrobenzene	: <0.01	2.0 mg/L
Pentachlorophenol	: <0.01	100.0 mg/L
Pyridine	: <0.01	5.0 mg/L
Tetrachloroethylene	: <0.01	0.7 mg/L
Trichloroethylene	: <0.01	0.5 mg/L
2,3,5 Trichlorophenol	: <0.01	400.0 mg/L
2,4,6 Trichlorophenol	: <0.01	2.0 mg/L
Vinyl Chloride	: <0.01	0.2 mg/L
Reactive Cyanide	: <10	250.0 ppm
Reactive Sulfide	: <10	500.0 ppm
Phenol	: <10	1000.0 ppm
Flash point	: >150	140 F min
Paint filter	: pass	pass/fail
pH	: 8.90	greater than 2 less than 12.5

ENVIROPUR INC.
7601 WEST 47th STREET MCCOOK, IL 60525

ANALYSIS REPORT FORM
LIFT AND UNLOADING STATIONS

SAMPLE ID: UPS#2
SAMPLE DATE: Apr 7, 1993
REPORT DATE: May 13, 1993
SAMPLE DESCRIPTION: UNLOADING STATION

PARAMETER	RESULT	LIMIT
Arsenic	: <0.15	5.0 mg/L
Barium	: 41.9	100.0 mg/L
Cadmium	: <0.1	1.0 mg/L
2,4- D	: <0.07	10.0 mg/L
Endrin	: <0.001	0.02 mg/L
Lead	: <0.02	5.0 mg/L
Lindane	: <0.001	0.4 mg/L
Mercury	: 0.0005	0.2 mg/L
Methoxychlor	: <0.055	10.0 mg/L
Selenium	: <0.12	1.0 mg/L
Silver	: <0.1	5.0 mg/L
Toxaphene	: <0.12	0.5 mg/L
2,4,5-TP (silvex)	: <0.055	1.0 mg/L
Benzene	: <0.01	0.5 mg/L
Carbon Tetrachloride	: <0.01	0.5 mg/L
Chlordane	: <0.003	0.03 mg/L
Chlorobenzene	: <0.01	100.0 mg/L
Chloroform	: <0.01	6.0 mg/L
o-Cresol	: <0.01	200.0 mg/L
m-Cresol	: <0.01	200.0 mg/L
p-Cresol	: <0.01	200.0 mg/L
Cresol (total)	: <0.01	200.0 mg/L
1,4 Dichlorobenzene	: <0.01	7.5 mg/L
1,2 Dichloroethane	: <0.01	0.5 mg/L
1,1 Dichloroethylene	: <0.01	0.7 mg/L
2,4 Dinitrotoluene	: <0.01	0.13 mg/L
Heptachlor (and its epoxide)	: <0.003	0.008 mg/L
Hexachlorobenzene	: <0.01	0.13 mg/L
Hexachloro-1,3-butadiene	: <0.01	0.5 mg/L
Hexachloroethane	: <0.01	3.0 mg/L
Methyl ethyl ketone	: <0.01	200.0 mg/L
Nitrobenzene	: <0.01	2.0 mg/L
Pentachlorophenol	: <0.01	100.0 mg/L
Pyridine	: <0.01	5.0 mg/L
Tetrachloroethylene	: <0.01	0.7 mg/L
Trichloroethylene	: <0.01	0.5 mg/L
2,3,5 Trichlorophenol	: <0.01	400.0 mg/L
2,4,6 Trichlorophenol	: <0.01	2.0 mg/L
Vinyl Chloride	: <0.01	0.2 mg/L
Reactive Cyanide	: <10	250.0 ppm
Reactive Sulfide	: <10	500.0 ppm
Phenol	: <10	1000.0 ppm
Flash point	: >150	140 F min
Paint filter	: pass	pass/fail
pH	: 8.91	greater than 2 less than 12.5

ENVIROPUR INC.
7601 WEST 47th STREET MCCOOK, IL 60525

ANALYSIS REPORT FORM
LIFT AND UNLOADING STATIONS

SAMPLE ID: UPS#3
SAMPLE DATE: Apr 7, 1993
REPORT DATE: May 13, 1993
SAMPLE DESCRIPTION: UNLOADING STATION

PARAMETER	RESULT	LIMIT
Arsenic	: <0.15	5.0 mg/L
Barium	: 34.8	100.0 mg/L
Cadmium	: <0.1	1.0 mg/L
2,4- D	: <0.07	10.0 mg/L
Endrin	: <0.001	0.02 mg/L
Lead	: 0.12	5.0 mg/L
Lindane	: <0.001	0.4 mg/L
Mercury	: 0.0005	0.2 mg/L
Methoxychlor	: <0.055	10.0 mg/L
Selenium	: <0.12	1.0 mg/L
Silver	: <0.1	5.0 mg/L
Toxaphene	: <0.12	0.5 mg/L
2,4,5-TP (silvex)	: <0.055	1.0 mg/L
Benzene	: <0.01	0.5 mg/L
Carbon Tetrachloride	: <0.01	0.5 mg/L
Chlordane	: <0.003	0.03 mg/L
Chlorobenzene	: <0.01	100.0 mg/L
Chloroform	: <0.01	6.0 mg/L
o-Cresol	: <0.01	200.0 mg/L
m-Cresol	: <0.01	200.0 mg/L
p-Cresol	: <0.01	200.0 mg/L
Cresol (total)	: <0.01	200.0 mg/L
1,4 Dichlorobenzene	: <0.01	7.5 mg/L
1,2 Dichloroethane	: <0.01	0.5 mg/L
1,1 Dichloroethylene	: <0.01	0.7 mg/L
2,4 Dinitrotoluene	: <0.01	0.13 mg/L
Heptachlor (and its epoxide)	: <0.003	0.008 mg/L
Hexachlorobenzene	: <0.01	0.13 mg/L
Hexachloro-1,3-butadiene	: <0.01	0.5 mg/L
Hexachloroethane	: <0.01	3.0 mg/L
Methyl ethyl ketone	: <0.01	200.0 mg/L
Nitrobenzene	: <0.01	2.0 mg/L
Pentachlorophenol	: <0.01	100.0 mg/L
Pyridine	: <0.01	5.0 mg/L
Tetrachloroethylene	: <0.01	0.7 mg/L
Trichloroethylene	: <0.01	0.5 mg/L
2,3,5 Trichlorophenol	: <0.01	400.0 mg/L
2,4,6 Trichlorophenol	: <0.01	2.0 mg/L
Vinyl Chloride	: <0.01	0.2 mg/L
Reactive Cyanide	: <10	250.0 ppm
Reactive Sulfide	: <10	500.0 ppm
Phenol	: <10	1000.0 ppm
Flash point	: >150	140 F min
Paint filter	: pass	pass/fail
pH	: 8.70	greater than 2 less than 12.5

RAPPS ENGINEERING & APPLIED SCIENCE

CHAIN OF CUSTODY RECORD

2387 W. Monroe
P.O. Box 7349
Springfield, IL 62791
(217)-787-2118

Client: ENVIROPUR				Sampler(s): CHRIS HOFFMAN				Analysis Requested				Remarks
Project: SITE INVESTIGATION				Grab	Comp.	No. of Bottles	WASTE CHARACTERIZATION					
Sample Number	Sampling Location	Date	Time									
1	UPS #1	4-7-93		X		2	X					
2	UPS #2	4-7-93		X		2	X					
3	UPS #3	4-7-93		X		2	X					
4	LSS #1	4-7-93		X		2	X					
5	LSS #2	4-7-93		X		2	X					
6	LSS #3	4-7-93		X		2	X					
* SET ATTACHED LISTS A, B, and C for Parameters												

Relinquished By	Date	Time	Received By	Date	Time
<i>Chris Hoffman</i>	4-7-93	16:20	<i>J. Rappin</i>	4/7/93	1625
Shipping Notes:					

MAY 13 '93 14:12 ENVIROPUR 708/442-9644

APPENDIX 2-2

CONCRETE DOCUMENTATION

STATEMENT

FOR: RAPP'S

TOTAL USED CONCRETE: 35 1/2 cu yds
5 BAG

AFTER 28 DAYS

COMPRESSIVE STRENGTH: 3500 PSI.

DISTRIBUTOR:

H. J. MOHR & SONS CO.

915 E. MAPLE AVE.

OAK PARK, ILL.

ALL MATERIAL & LABORS

WAS PAID

BY:

Town & Country
CONCRETE CONSTRUCTION

Alexander Verna

1440 SOUTH 60th COURT

CICERO, ILLINOIS 60650

TEL. (708) 656-7616 - 656-5554

DATE: 6/25/93.

JUN 28 '93 08:45 ENVIRONMENT 708/442/9644

P. 9/10

APPENDIX 2-3

DENSITY TESTS

ROBERT L. NELSON & ASSOCIATES, INC.
1107 Tower Road, Schaumburg, Illinois 60173
708/882-1146

IN PLACE DENSITY TESTS

CLIENT: Enviropur Waste Refining and Tech
PROJECT: Enviropur Wast Refining & Tech, Temporary Loading Pad, 47th St., McCook, IL
LOCATION: Temporary loading pad
TEST METHOD: ASTM D2922
DATE OF TEST: 6/16/93
INSPECTOR: Richard Epperson

<u>Test #</u>	<u>Location</u>	<u>Elevation</u>	<u>Modified Proctor</u>	<u>Moisture Content</u>	<u>Dry Density</u>	<u>% Proctor</u>
1	East end	Stone base	145.3/6.1	5.5	141.5	97.4
2	Center	Stone base	145.3/6.1	5.0	143.7	98.9
3	West end	Stone base	145.3/6.1	5.3	142.2	97.9

Maximum Dry Density: 145/3 Lb/cu.ft.
Optimum Moisture: 6.1%
Material: CA6 limestone

Respectfully submitted,

ROBERT L. NELSON & ASSOCIATES, INC.



Robert L. Nelson
President

RLN/jn
cc: Jon McCormick, RAPPS Engineering and Applied Science

APPENDIX 2-4

BITUMINOUS MATERIAL DOCUMENTATION

CALAGNAN ASPHALT
L. WORTON

RECYCLED BINDER

6-16-93 - TONS
6-17-93 - 108
6-18-93 48

TOTAL TONS BINDER = 166

REC BINDER

BINS-
4- 30%
3- 18%
2- 8%
1- 15.8%
AC- 3.2%
RAP- 2.5%

Vulcan
Materials Company
MIDWEST DIVISION

CALAGNAN ASPHALT
L. WORTON

VIRGIN III SURF

6-21-93 TONS
60

VIRGIN III SURF

BINS
3- 35%
2- 23%
1- 33.6%
MF- 3%
A.C- 5.4%

Vulcan
Materials Company
MIDWEST DIVISION



Illinois Department of Transportation

Division of Highways/District 1
201 West Center Court/Schaumburg, Illinois/60196-1096

CALLAGHAN ASPHALT, HODGKINS

Dear Sir:

The following are the Class I, Type 2 mixes for the Aggregate Sources listed below:

042	CM-11	50312-78, VULCAN MATLS, McCOOK
032	CM-16/13	50312-78, VULCAN MATLS, McCOOK
037	FA-02	57110-06, VULCAN MATLS, CRY. LK.
038	FA-21	50312-78, VULCAN MATLS, McCOOK
004	MF-01	50312-78, VULCAN MATLS, McCOOK
	017CM-11/13	CALLAGHAN
	Anti-Strip Agent	

Mix Number & Pass.	Recycled Binder SIBITB001	Binder SIBITAC01	Surface SIBITD001	Recycled Lev. Bind. SIBITC001
1"	100	100		
3/4"	98	98		
1/2"	74	74		
3/8"	65	65	100	100
#4	39	39	98	98
#8	29	28	58	58
#16	23	23	38	38
#50	11	11	30	30
#100	6	6	12	12
#200	4.2	4.2	7	7
% AC	4.2	4.2	5.0	5.0
Big "D"	2.55	2.55	5.4	5.4
			2.52	2.52

The composition limits of the mixtures shall conform to the requirements of Article 406 and applicable supplemental specifications. The preparation of design composition will be furnished upon written request.

We reserve the right to make whatever changes deemed necessary during the course of construction to improve quality, density, and stability of the mixtures.

If there are any changes in sources of aggregate, it will be your responsibility to inform the Department in writing.

Very truly yours,

Duane P. Carlson, P.E.
District Engineer

By:

BD je Doc. #1073m



Illinois Department
of Transportation

Jay J. Behnke, P.E.
Mixture Control Supervisor

Bureau of Materials
201 West Center Court
Schaumburg, Illinois 60196-1096
Telephone 708/705-4338

APPENDIX 2-5


SURVEY DOCUMENTATION

ENVIROPUR (CHICAGO)

TEMP ASPHALT VEHICLE
UNLOADING PAD

FINAL INSPECTION

6-23-93

JAM 
(PARRY)
(ENVIROPUR)

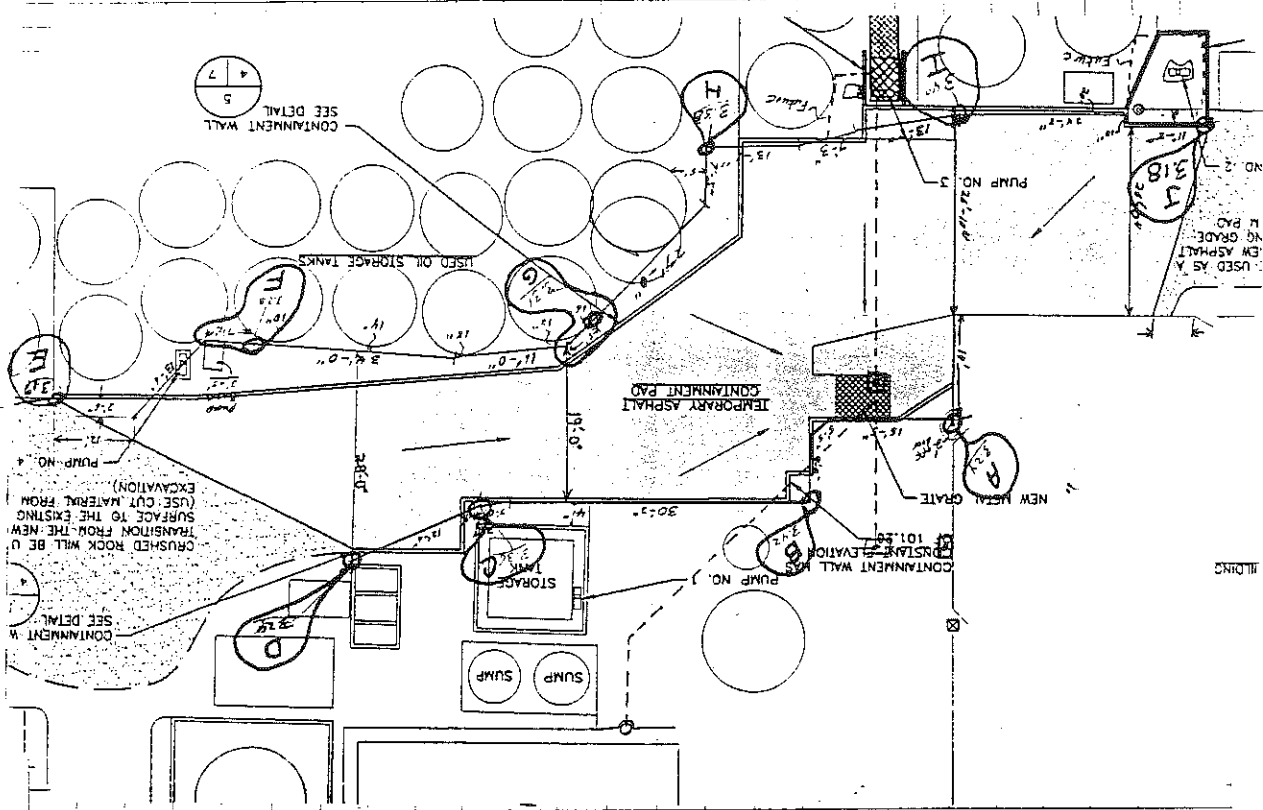
Sunny, CLEAR 82°

FINAL SURFACE ASPHALT		FS	HI	FS	ELEV.	BENCH
BM (POORWAY @ STA 0+72.13' LT)	BS					100.00
	↳ 4.60 (104.60)					
0+40		5.18			99.92	
@ 10' RT		4.92			99.68	
20'		4.90			99.70	
30'		4.85			99.75	
40'		4.70			99.90	
50'		4.56			100.04	
60'		4.50			100.10	
70'		4.40			100.20	
80'		4.31			100.29	
90'		3.91			100.69	
CONC. CURB VS. ASPHALT	97'	3.52			101.08	
0+41 @ 100' RT		3.30		END of RAMP	101.30	
0+50 @ 10' RT		5.01			99.59	
20'		4.88			99.72	
30'		4.81			99.79	
40'		4.65			99.95	
50'		4.52			100.08	
60'		4.38			100.22	
70'		4.22			100.38	
80'		4.07			100.53	
END of ASPHALT	87'	3.85			100.75	
0+53.2 @ 7.5' RT		4.87			99.73	
0+60 @ 70' RT		3.69			100.91	
					Continued -	

FINAL SURFACE ASPHALT CONT.				
BS	HI	FS	ELEV	BENCH
B.M.	(104.60)			
0+62.33 @ 70.8' RT		3.42	NE CORNER OF RAMP	101.18
0+30		4.25		99.65
@ 10' RT		4.88		99.72
@ 20' RT		4.79		99.81
0+34.33 @ 80' RT		4.25	ASPHALT VS. CONC.	100.35
0+35.2 @ 39.5' RT		4.67	ASPHALT VS. CONC.	99.93
0+20		4.75		99.85
@ 10' RT		4.75		99.85
20'		4.58		100.02
0+20 @ 10' LT		4.88		99.72
0+10		4.65		99.95
0+28 @ 13' LT		4.90		99.70
0+42.2 @ 13' LT		4.90		99.70
0+53.5 @ 40' RT	ASPHALT VS. CONC.	4.57		100.03
TP#1 5.18	(105.17)	4.61		99.99
0+20 @ 20' LT		5.41		99.76
30		5.23		99.94
40		4.62		100.55
43.9	END ASPHALT	4.38		100.79
0+10 @ 10' LT		5.27		99.90
20		5.40		99.71
30		5.30		99.87
40		4.96		100.21
46	END ASPHALT	4.22		100.95
		-		CONTINUED -

FINAL SURFACE ASPHALT CONT.

TP#1	BS	HI	FS	ELEV.
0+1.7 @ 40' LT		105.17	4.98	100.79
0+1.7 @ 46.7' LT			3.93	END ASPHALT 101.24
0+27.9 @ 41.7' LT			3.96	END ASPHALT 101.21
TP#2	3.35	104.74	3.78	101.39
BM			4.74	✓ 100.00
TOP OF CONCRETE WALL				
BM	4.74	104.74		100.00
A			3.24	101.50
B			3.42	101.32
C			3.36	101.38
D			3.24	101.50
E			3.17	101.57
F			3.28	101.46
G			3.31	101.43
H			3.38	101.36
I			3.40	101.34
J			3.18	101.56



PHOTOGRAPHS



MATCH A

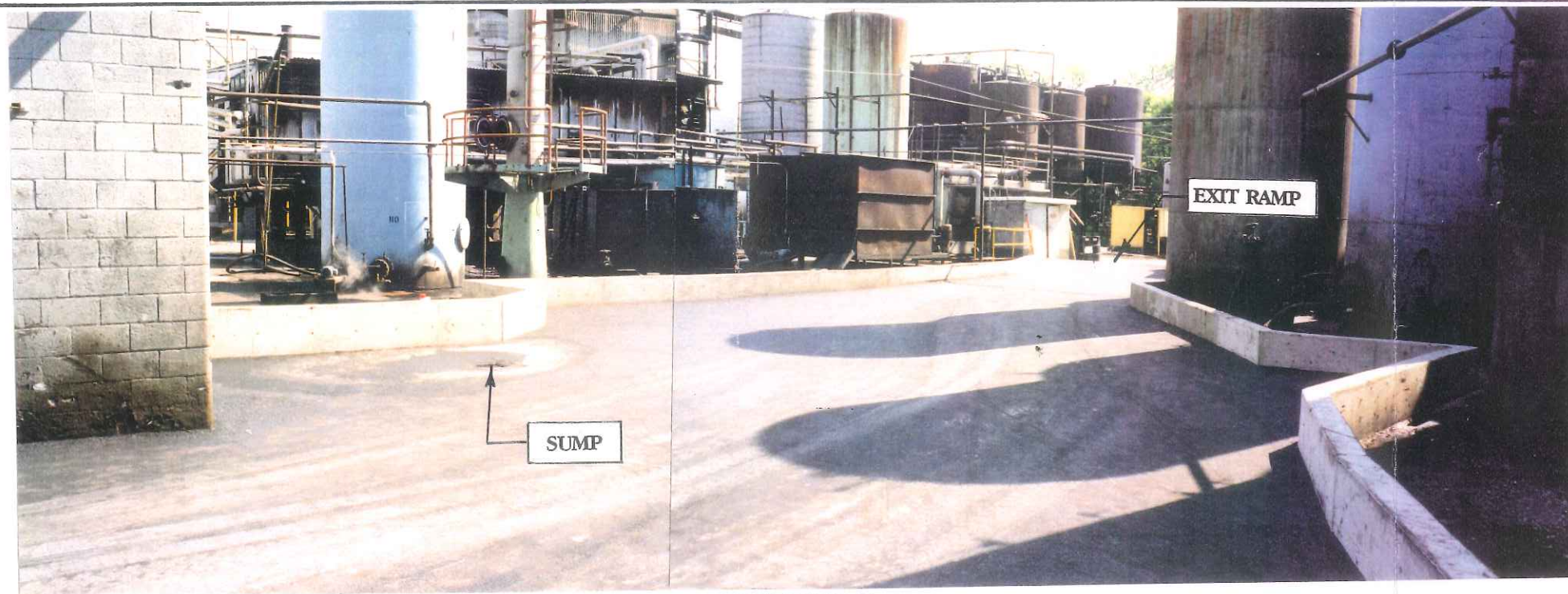


DATE OF PHOTOGRAPHS: 2-3-93

RAPPS

ENGINEERING & APPLIED SCIENCE
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SPRINGFIELD IL 62704 • (217) 787-2118

VEHICLE UNLOADING AREA
PANORAMIC VIEW
LOOKING NORTH



LOOKING EAST



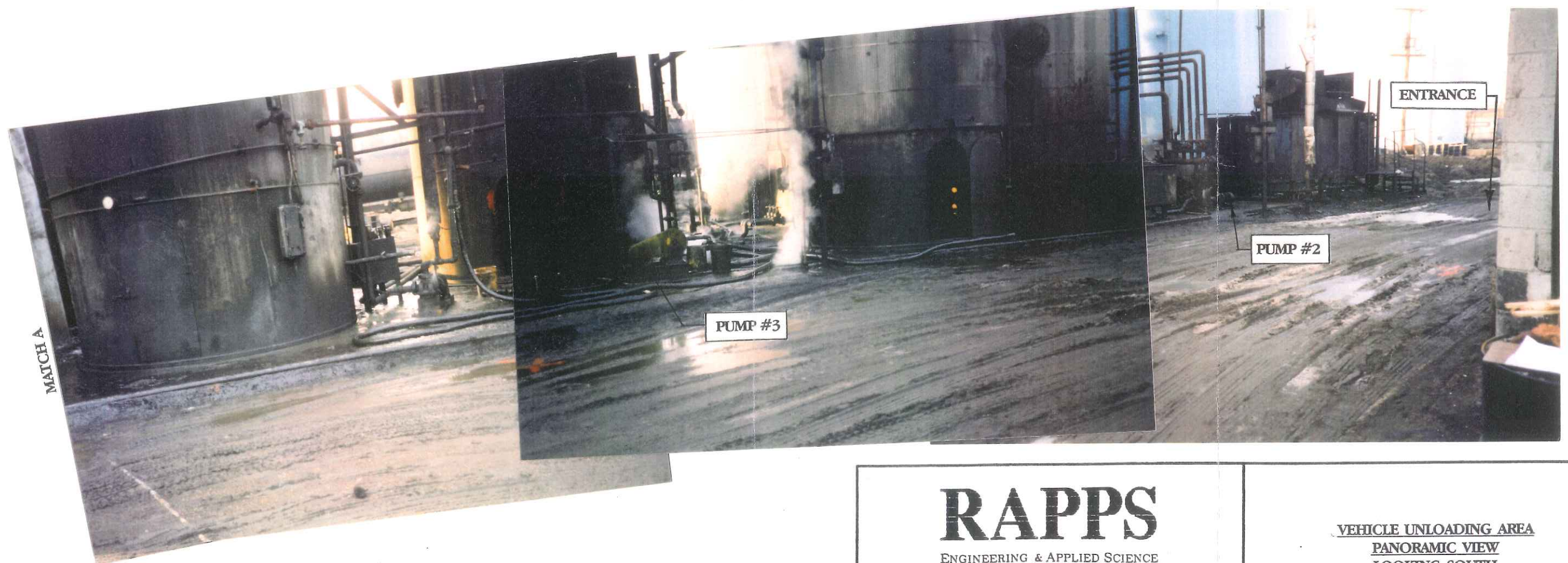
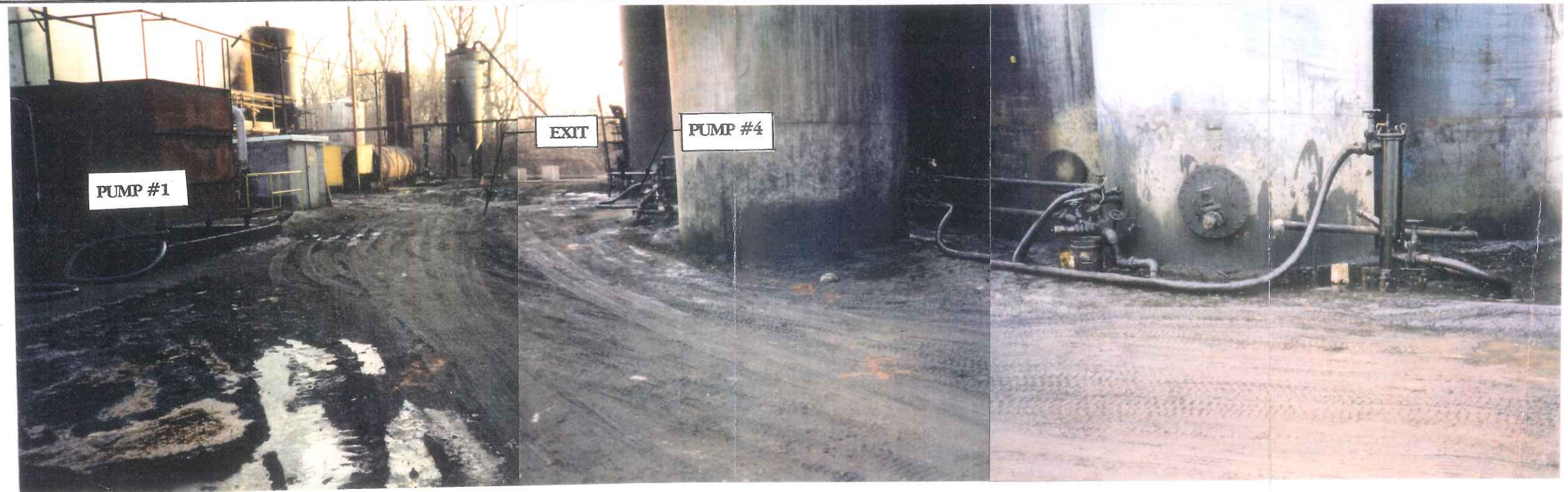
LOOKING WEST

RAPPS

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TEMPORARY VEHICLE
UNLOADING PAD

DATE OF PHOTOGRAPHS: 6-23-93



DATE OF PHOTOGRAPHS: 2-3-93

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VEHICLE UNLOADING AREA
PANORAMIC VIEW
LOOKING SOUTH



ENTRANCE RAMP - LOOKING WEST



ENTRANCE RAMP - LOOKING EAST



ENTRANCE RAMP - LOOKING EAST



ENTRANCE RAMP - LOOKING WEST

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TEMPORARY VEHICLE UNLOADING
PAD

DATE OF PHOTOGRAPHS: 6-23-93



SUMP(LOCATED UNDER RED BUCKET)

LOOKING NORTHEAST



LOOKING NORTHWEST



LOOKING WEST



LOOKING SOUTHWEST

RAPPS

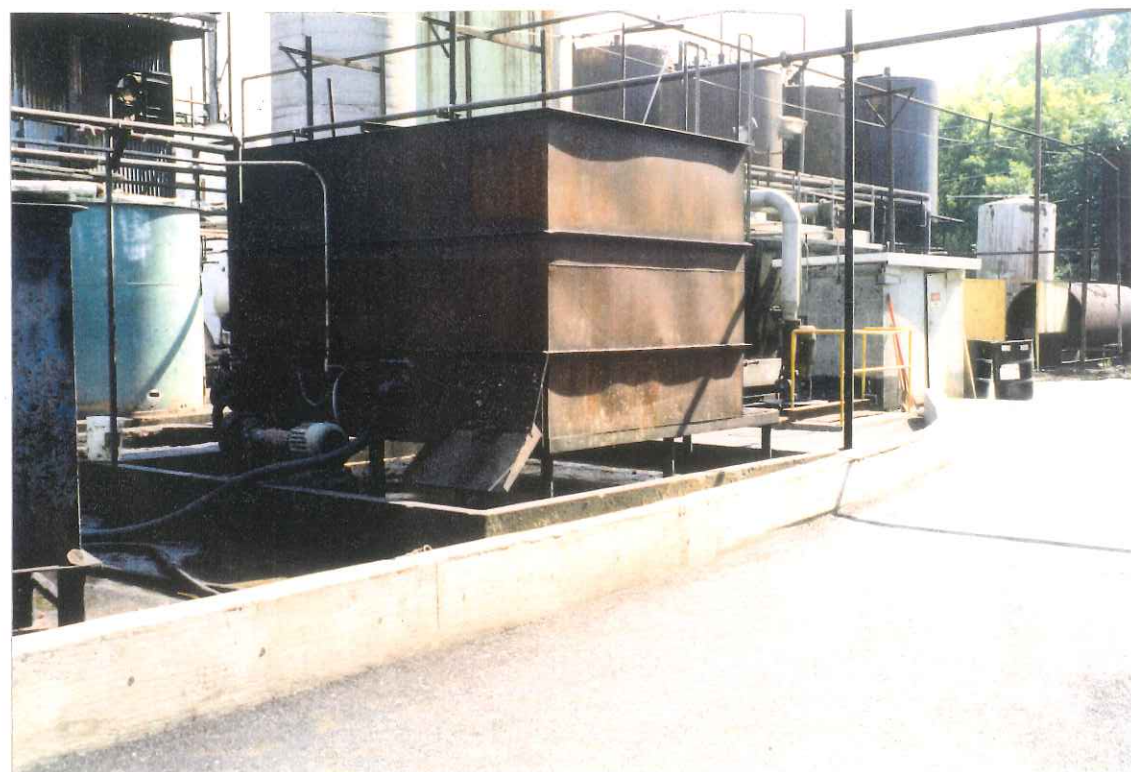
ENGINEERING & APPLIED SCIENCE

2387 WEST MONROE

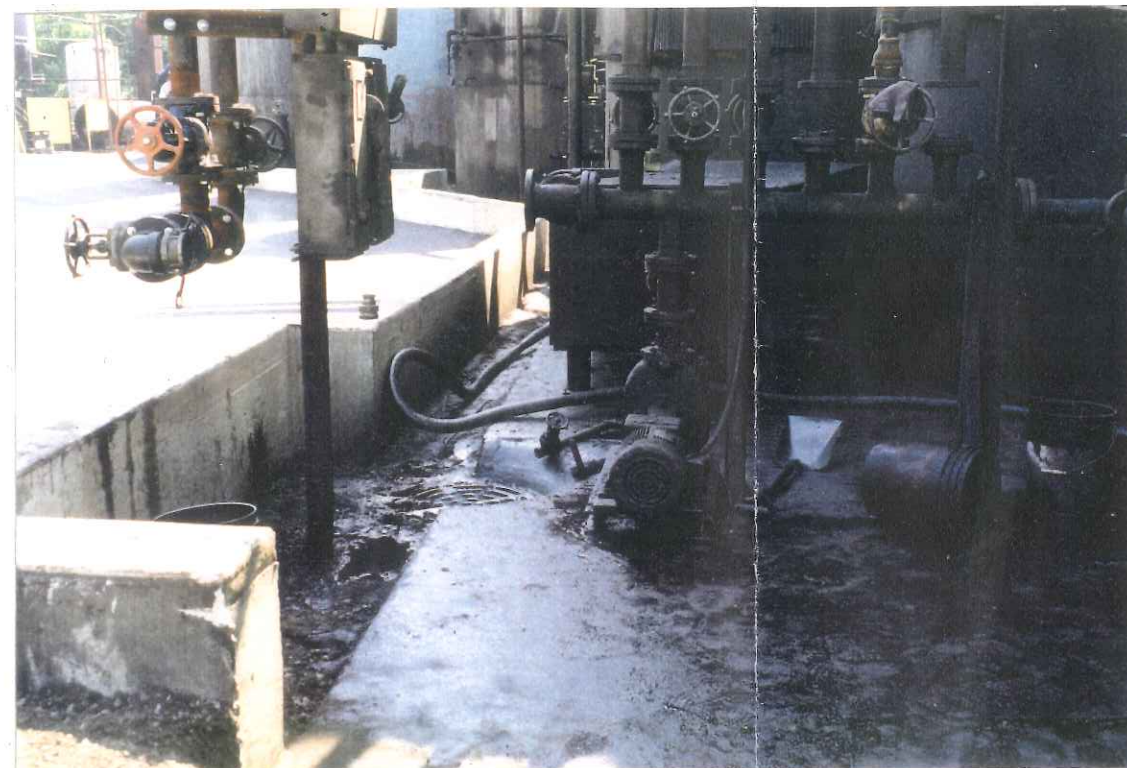
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TEMPORARY VEHICLE UNLOADING
PAD DURING PERIMETER WALL
EXCAVATION

DATE OF PHOTOGRAPHS: 5-15-93



PUMP #1 - LOCATED WITHIN CONCRETE
CONTAINMENT PAD



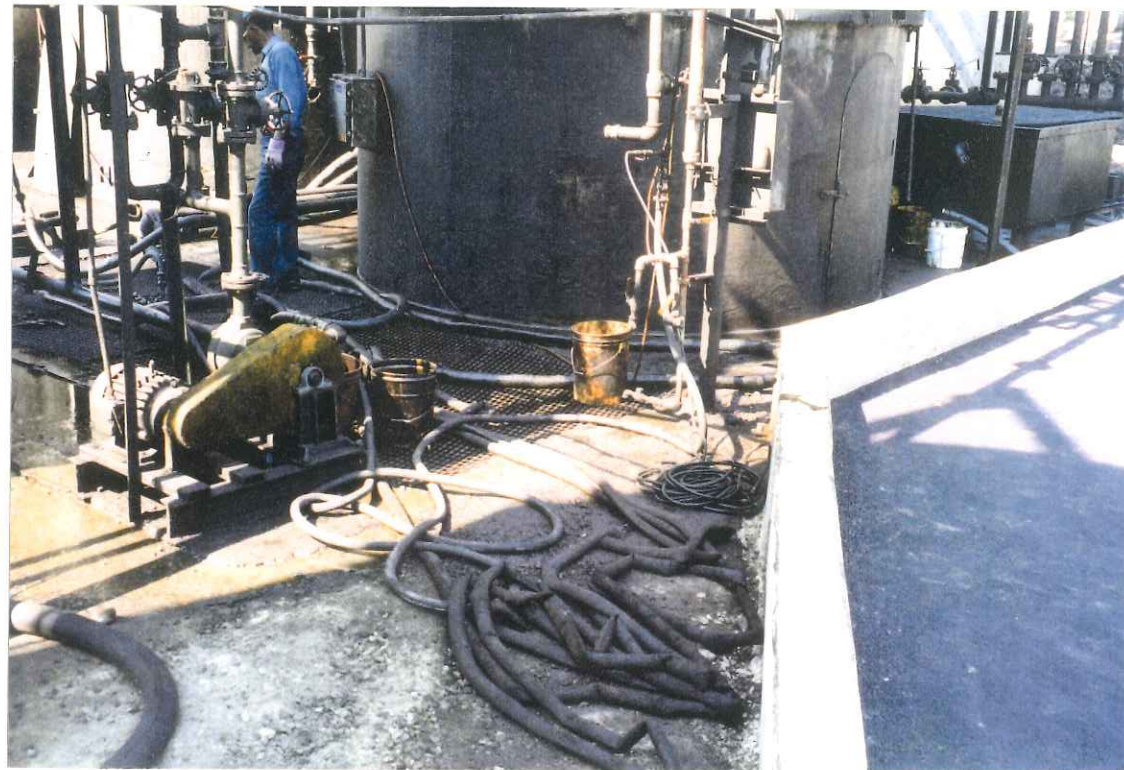
PUMP #2 - LOCATED ON CONCRETE PAD
(CONCRETE WALLS WILL BE BUILT AND
ADDITIONAL CONCRETE FLOOR WILL BE POURED
TO CHANNEL SPILLS TOWARD SUMP).

DATE OF PHOTOGRAPHS: 6-23-93

RAPPS

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PUMP LOCATIONS



PUMP #3 - LOCATED ON CONCRETE PAD NEAR SUMP.
(CONCRETE WALLS WILL BE BUILT AROUND PUMP
TO CHANNEL SPILLS TOWARD SUMP).



PUMP #4 - PUMP LOCATED ON ASPHALT UNLOADING PAD
(SPILLS WILL DRAIN TO SUMP).

DATE OF PHOTOGRAPHS: 6-23-93

RAPPS

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PUMP LOCATIONS

